

Ecology: The species grows on leaf litter as well as on the roots of *Quercus* spp. and the members of Family Lauraceae such as *Cinnamomum glanduliferum* (Wall) Meissn and *Persea odoratissima* (Nees) Kosterm. The fungal species that had mycorrhizal association with *M. hypopitys* were *Russula lepida* Fr., *Boletus luteus* L., *B. edulis* Bull. and *Tricholoma saponaceum* (Fr.) P. Kumm. The other fungal species present in the litter were *Scleroderma aurantium* (L.) Pers, *Amanita phalloides* (Vaill ex. Fr.) Link and *Hygrophorus limacinus* Kalchbr.

Distribution: China, Bhutan, Myanmar, Thailand, Russia, Pakistan, Europe, North America, Mexico and India.

Threat status: Following IUCN classification scheme Version 3.1 (2001), the species is assigned to the category 'Critically endangered'.

Being an achlorophyllous plant, *Monotropa hypopitys*

depends on its association with mycorrhizal fungi for nutrition, which in turn are usually associated with the roots of selected tree species. The survival and reproduction of *M. hypopitys* seems to be extremely sensitive to forest microenvironment that encourages the mycorrhizal association between the angiosperm tree roots and fungi. Thus, the protection of the habitat holds key to the species conservation.

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20. DOES *ACHYRANTHES BIDENDATA* BLUME (AMARANTHACEAE) OCCUR IN ANDAMAN & NICOBAR ISLANDS?

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The species *Achyranthes bidendata* Blume is widely distributed in the tropical countries mainly in Africa and Asia. In India, the species has been reported throughout the country from sea level to 1,000 m altitude. Vasudeva Rao (1986) reported this species from Nicobar Islands based on the earlier collections deposited in the Botanical Survey of India regional herbarium, Port Blair (PBL). Later, Sinha (1999) included it in his work based on the above report and collections. A critical examination of earlier collections with relevant literature reveals that all the specimens hitherto identified as *Achyranthes bidendata* Blume in PBL belong to *Cyathula prostrata* (L.) Blume. The genus *Cyathula* is closely allied to the genus *Achyranthes* L., but differs from it by having rhombate leaves and fascicled

hooks around the glomerules of flowers. Thus, *Achyranthes bidendata* Blume may not occur on Andaman & Nicobar Islands. The present paper gives nomenclature and concise description of *Cyathula prostrata* together along with its distribution in the world and habitat.

Cyathula prostrata (L.) Blume, Bijdr. 549. 1825; Hook. f., *Fl. Brit. India* 4: 723. 1885; Ridl., *Fl. Malay Penins.* 3: 7. 1924; Backer in Steenis, *Fl. Males. Ser. 1, Spermat.* 4: 82, t. 4. 1949; Larsen in *Fl. Thailand* 5(4): 393, t. 86 (7-13). 1992. *Achyranthes prostrata* L. Sp. Pl. ed. 2, 296. 1762. *A. bidendata sensu* Vasudeva Rao in *J. Econ. Taxon. Bot.* 8: 140. 1986; Sinha, *Fl. Great Nicobar Isl.* 351. 1999. (*non* Blume, 1826).

Erect or prostrate herb, up to 80 cm high; stem reddish-

brown, obtusely quadrangular, densely white hairy. Leaves simple, opposite, membranous, rhombate, 2-7 x 1-3 cm, acute at apex and base, margin entire, ciliate, patently hairy on both surfaces, reddish-brown above, greenish-brown beneath; petioles 5-7 mm long, channeled above, hairy. Inflorescence terminal, racemose, up to 26 cm long, densely pubescent; peduncles up to 8.5 cm long. Flowers in glomerules, sterile flowers often found in the lower parts and modified into hooked fascicles. Tepals lanceolate, *c.* 3 mm long, densely villous and pubescent within. Stamens 5, filaments at the base with a short connate cup; free parts alternating with dentate, pseudo-staminodes; anthers 2-celled. Ovary obovoid, *c.* 1 mm long; style very short. Seeds up to 1.2 mm long, shining brown.

Fl. & Fr.: March-August.

Distribution: INDIA: Throughout; Africa to China, throughout south-east Asia and Australia.

Habitat: Not common along the edges of evergreen

and semi-evergreen forests.

Specimens Examined: Little Andaman Island: Way towards Unnis nallah dam, 27.iv.2006, L. Rasingam 20984; North Nicobars: Katchal Island, West bay, 1.v.1977, P. Chakraborty 5578; South Nicobars: Great Nicobar Islands, 35 km on east-west road, 20.vii.1976, N.P. Balakrishnan 3898; 36.8 km on east-west road, 17.vi.1977, N.P. Balakrishnan 5824.

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21. *PANDANUS UNIPAPILLATUS* DENNST.: A NEW RECORD FOR MAHARASHTRA AND GOA, INDIA

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In November 2007, we collected a species from Maharashtra at Sawantwadi (15° 51' 33 N; 73° 50' 38 E) of Sindhudurg district and in December 2007 from Goa at Paingen (14° 58' 03 N; 74° 05' 19 E) of Canacona district. The collected specimen when compared with the authentically identified specimens deposited at the Botanical Survey of India, Western Circle, Pune, was identified as *P. unipapillatus*.

Pandanus unipapillatus Dennst. (Pandanaceae) has been reported for the first time for the states of Maharashtra and Goa (Sharma *et al.* 1996; Rao 1986; Kulkarni 1988). In this report, a detailed description of the species is given.

***P. unipapillatus* Dennst.** Schlüssel Hortus Malab. 27. (1818).

Material Examined: INDIA: Maharashtra (Sindhudurg district, Sawantwadi, 7 km from Sawantwadi towards Londha) female plant, Rahul Zanan 7; Goa Canacona district, Paingen, male plant, Rahul Zanan 5, female, Rahul Zanan 6.

A large shrub or small tree up to 8 m height; more or less erect stem, branching near top with a few prop roots at base. Leaves up to 1.5-2 m x 3-5 cm, margin with sharp curved prickles and midrib prickly along its whole length. 7-8 spines on midrib (per 10 cm), spines 3 mm long, 15-16 on margin (per 10 cm) in three rows, leaf colour deep to light green.

Male inflorescence ephemeral, fragrant, terminal with yellowish 10-12 bracts; spikes up to 12-20 cm long and dense, stemonophore 3-6 mm long; stamen 5-8 mm long with free up to 1 mm long filament; anther 3-5 mm long. Female inflorescence terminal, bracteate, 6-8 bracts of variable length; solitary, oblong-rounded 25-30 cm x 18-20 cm, carpel simple, hexagonal, 4.5 cm long, 1 cm in diameter, single forked, style 1 cm long. Grows at the border of paddy fields and along the bank of streams.

Flowering & Fruiting: Fl.: August to October, Fr.: September to December.

Distribution: INDIA: Karnataka, Kerala, Tamil Nadu, Maharashtra and Goa.